NCCRED

ST VINCENT'S HEALTH AUSTRALIA

UNSW SYDNEY

New wave: Exploring Emerging Drugs from Clinical and Consumer Perspectives

Nadine Ezard
Clinical Director and Senior Staff Specialist, Alcohol and Drug Service, St Vincent's Hospital Sydney
Director, National Centre for Clinical Research on Emerging Drugs NCCRED
Professor National Drug and Alcohol Research Centre, UNSW

Acknowledgement of country

I acknowledge that I am on unceded Ngunnawal land, and pay my respects to elders past and present.

Disclosures

- Employed by St Vincent's Hospital Sydney into New South Wales Government health system and University of New South Wales with a grant from the Australian Government Department of Health and Aged Care
- Recipient of competitive research funding from Australian Government
- No commercial conflicts to declare

Thankyou to Brendan Clifford

Outline

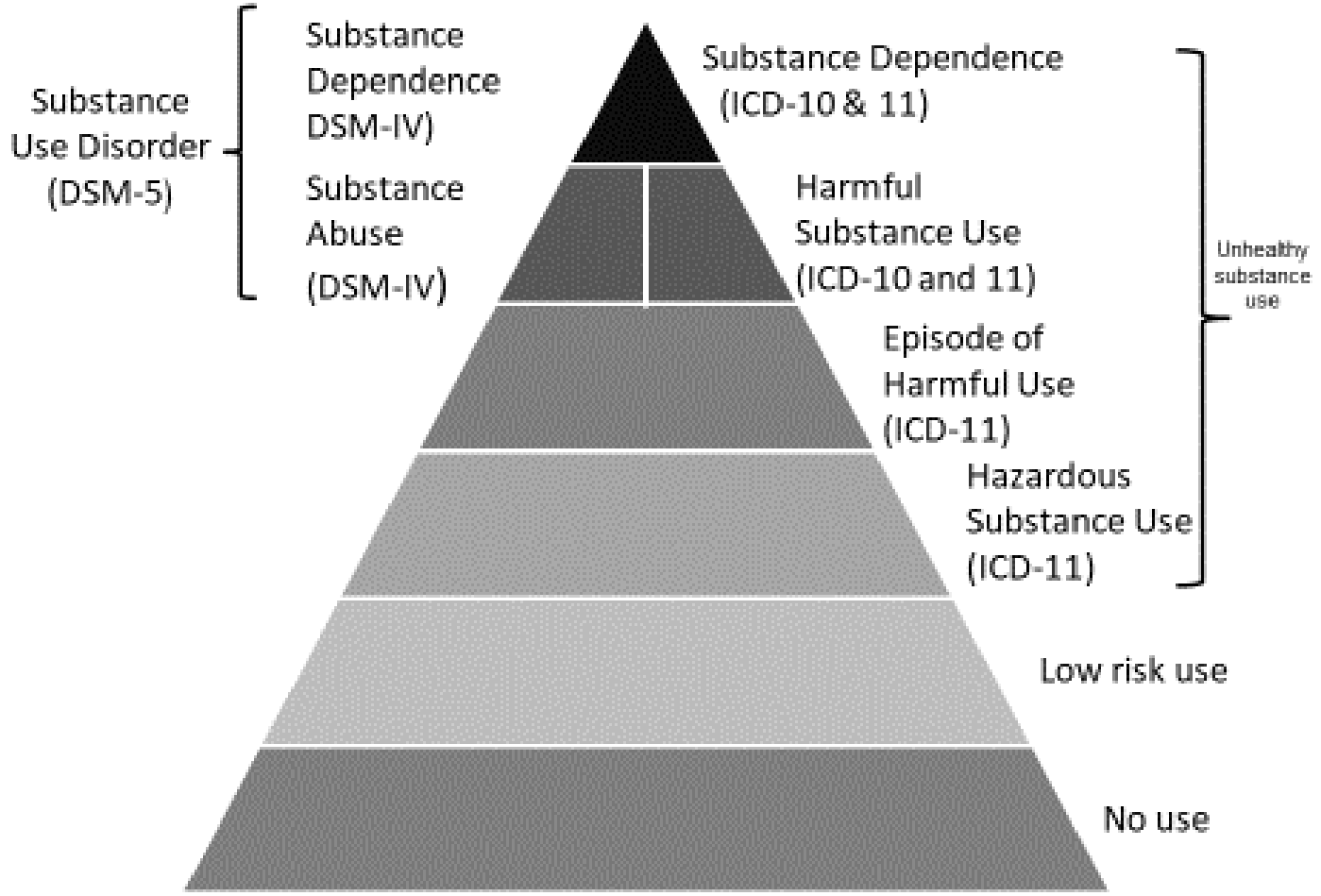
1. What are emerging drugs?
2. What drugs are emerging in Australia?
3. What are we doing to prepare and respond to emerging health harms?

1. What are emerging drugs?

Around 1240 new psychoactive substances 2023

UNODC WDR 2024

Clinical taxonomies



- Hierarchy of substance use disorder DSM and ICD (*with permission*)

[1] Saunders et al, Curr Opin Psychiat 2017

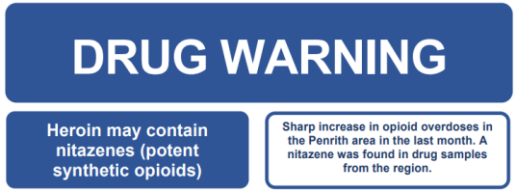
2. What drugs are emerging in Australia?

Novel opioids: Nitazenes

Table 2: Australian Public Drug Alerts for Nitazenes*

	2022	2023	2024
Australian Capital Territory	Metonitazene (23)		
New South Wales	Etodesnitazene (25) Nitazene (25)	Isotonitazene (26)	Protonitazepyne(27)
Queensland		Protonitazene (28)	
South Australia		Protonitazene (29) Nitazenes (30)	
Victoria	Protonitazene (31)	Metonitazene (32)	Protonitazene (33)

*Not all Australian jurisdictions issue public drug alerts



NSW Health – 24th April 2024

- 22 detections in sentinel emergency department toxico-surveillance in EDNA monitoring
- Found in or represented as opioids (heroin, oxycodone) and non-opioids (ketamine, MDMA, cocaine, alprazolam, 3C-P)
- Multiple routes of administration: oral, insufflation, inhalation, rectal, injection
- 17 deaths identified in Australia in recent coronial review (Darke et al 2024), additional recent reports from SA and Vic
- Reports of opioid dependence associated with nitazene use in opioid naïve (NSW, unpublished)

Nitazenes

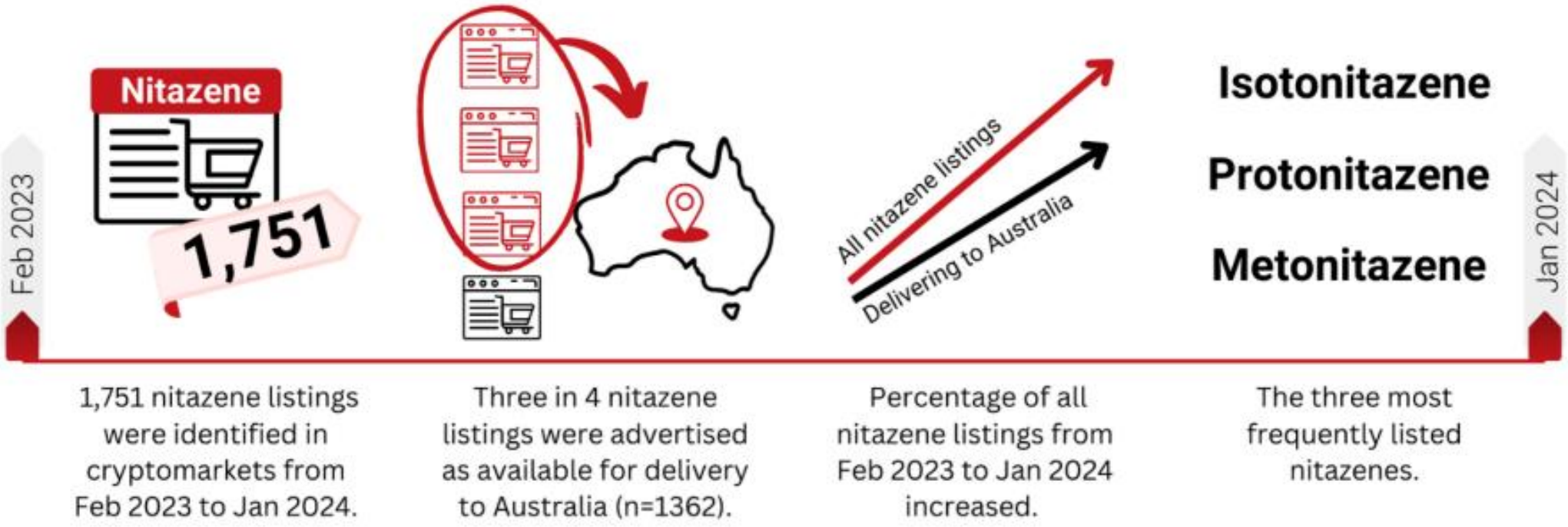
Table 1: Relative potency of selected nitazenes (6)

Nitazene	Potency relative to morphine*
Butonitazene	5
Etodesnitazene	70
Metonitazene	100
Protonitazene	200
Isotonitazene	500
Etonitazene	1000

*Antinociceptive potency relative to subcutaneous morphine in mice models (morphine = 1)

6. Ujváry I, Christie R, Evans-Brown M, Gallegos A, Jorge R, de Morais J, et al. DARK Classics in Chemical Neuroscience: Etonitazene and Related Benzimidazoles. ACS Chem Neurosci. 2021 Apr 7;12(7):1072–92.

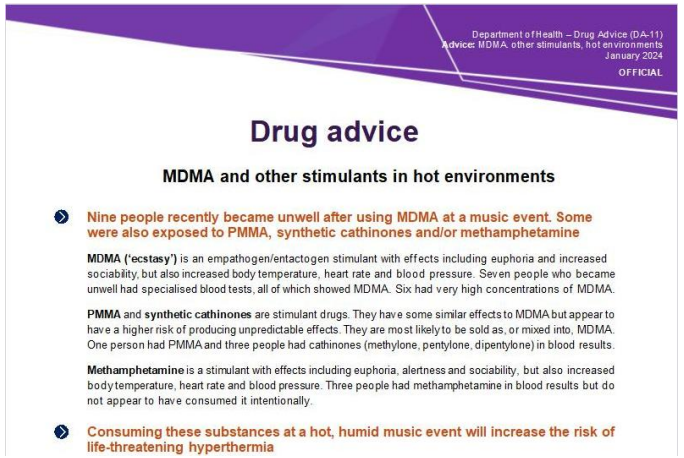
DNet



Man N et atl. Drug Trends Bulletin Series. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney; 2024. Available from: https://doi.org/10.26190/unsworks/30235

Novel Stimulants

- Butylone, dibutylone, dipentylone, pentylone, methylone.
- Dimethylpentylone
- 4-CMC
- MFPVP
- 4FA



VicHealth 12/01/24

CanTest 23/01/24

CanTest 30t/01/24

CanTest 12/04/24

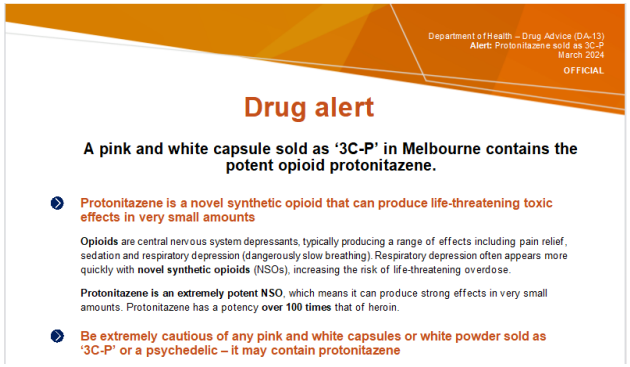
NB MA – Australian high rates of disorder

Novel Psychedelics

Psychedelic use increasing third most commonly used illegal drug class after cannabis and cocaine

- 2-CB
- 3C-P
- 2-CB vs TUSI (“pink cocaine” in Australia cocaine, ketamine)

? Harms


Department of Health – Drug Advice (DA-13)
Alert: Protonitazene sold as 3C-P
March 2024
OFFICIAL

Drug alert

A pink and white capsule sold as ‘3C-P’ in Melbourne contains the potent opioid protonitazene.

- Protonitazene is a novel synthetic opioid that can produce life-threatening toxic effects in very small amounts

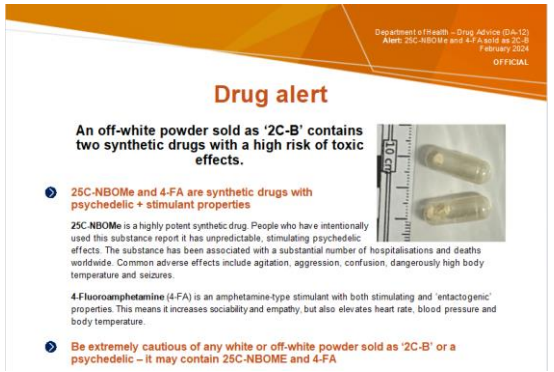
Opioids are central nervous system depressants, typically producing a range of effects including pain relief, sedation and respiratory depression (dangerously slow breathing). Respiratory depression often appears more quickly with **novel synthetic opioids** (NSOs), increasing the risk of life-threatening overdose.

Protonitazene is an extremely potent NSO, which means it can produce strong effects in very small amounts. Protonitazene has a potency **over 100 times** that of heroin.

- Be extremely cautious of any pink and white capsules or white powder sold as ‘3C-P’ or a psychedelic – it may contain protonitazene

VicHealth 5/05/24

25C-NBOME and 4-FA


Department of Health – Drug Advice (DA-12)
Alert: 25C-NBOMe and 4-FA sold as 2C-B
February 2024
OFFICIAL

Drug alert

An off-white powder sold as ‘2C-B’ contains two synthetic drugs with a high risk of toxic effects.

- 25C-NBOMe and 4-FA are synthetic drugs with psychedelic + stimulant properties

25C-NBOMe is a highly potent synthetic drug. People who have intentionally used this substance report it has unpredictable, stimulating psychedelic effects. The substance has been associated with a substantial number of hospitalisations and deaths worldwide. Common adverse effects include agitation, aggression, confusion, dangerously high body temperature and seizures.

4-Fluoroamphetamine (4-FA) is an amphetamine-type stimulant with both stimulating and ‘entactogenic’ properties. This means it increases sociability and empathy, but also elevates heart rate, blood pressure and body temperature.

- Be extremely cautious of any white or off-white powder sold as ‘2C-B’ or a psychedelic – it may contain 25C-NBOME and 4-FA

VicHealth 5/05/24


CANTEST COMMUNITY NOTICE

15 MAY 2023
COMMUNITY NOTICE

DRUG COCKTAIL 'TUSI' FOUND IN '2C-B' SAMPLE

A PINK POWDER SAMPLE purchased as psychedelic 2C-B found to contain a combination of other stimulant and dissociative drugs, including ketamine, MDMA & cocaine.

WHAT IS TUSI, OR PINK COCAINE? Known as 'tusibee', 'tusi' or 'pink cocaine' and known for it's distinctive colouring, it contains a combination of drugs, often stimulants, empathogens & dissociatives but sometimes opioids. Tusi (pronounced '2C') was named for containing 2C-B, but when tested contains a mix of things and doesn't always contain 2C-B.

EFFECTS may vary, due to the contents being a combination of unknown drugs and amounts. Know the signs of a stimulant overdose - chest pain, racing pulse, sweating/overheating, shortness of breath, hallucinations, anxiety, paranoia, confusion & slurred speech - test it before you take it - start low and go slow - don't mix with other drugs.

1/2

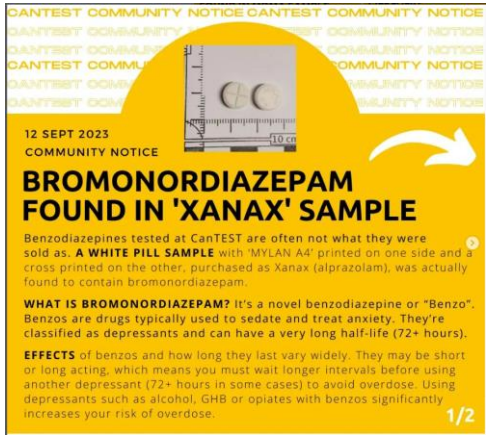
If you think someone is experiencing an overdose or adverse reaction - call 000 for an ambulance immediately

CanTEST PILL TESTING Directions cahma

CanTest 5/05/23

Novel Benzodiazepines

- Bromazolam
- Bromonordiazepam



CanTest 12/09/23

Unregistered BZDs involved in 8/17 nitazene deaths (Darke et al 2024

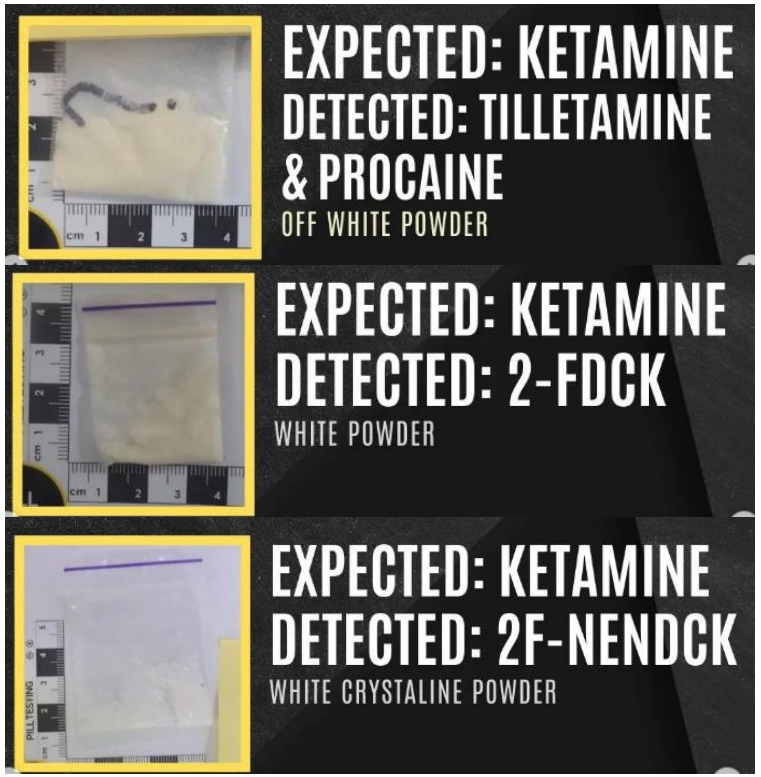
DASSA 21/04/24

Ketamine analogues

Increase in imports (seizure) and use (NDSHS, wastewater)
Analogues emerging (drug checking, toxicosurveillance) – harms unknown

- 2-FDCK, 2-FDCNEK
- 2'-Fluoro-2-oxo-PCE / 2F-NENDCK ("CanKet")
- Tiletamine
- CanTEST evaluation (2023)
  - 57% of 81 samples expected to have ketamine contained ketamine
- Cheqpoint QLD (2024)
  - 92% of 65 samples expected to have ketamine contained ketamine

RABBITS EAT LETTUCE (PTA)



3. What are we doing to prepare and respond to emerging health harms?

Drug Alerts

Volpe et al. Harm Reduction Journal (2023) 20:3
https://doi.org/10.1186/s12954-022-00716-3

Harm Reduction Journal

RESEARCH Open Access

'We don't live in a harm reduction world, we live in a prohibition world': tensions arising in the design of drug alerts

Isabelle Volpe[1,2], Rita Brien[3,4], Jasmin Grigg[3,4], Stephanie Tzanetis[5], Sione Crawford[5], Tom Lyons[6], Nicole Lee[7,8], Ginny McKinnon[6], Caitlin Hughes[9,10], Alan Eade[11,12] and Monica J. Barratt[1,10,13]*

Abstract

Background Drug alerts designed for health and community workforces have potential to avert acute harms associated with unpredictable illicit drug markets, by preparing workers to respond to unusual drug-related events, and distribute information to service users. However, the design of such alerts is complicated by diverse needs of individuals, and broader socio-political contexts. Here, we discuss the tensions that arose in the process of co-designing drug alert templates with health and community workers.

Methods We conducted five in-depth digital co-design workshops with 31 workers employed in alcohol and other drug and urgent care settings. Our approach to analysis was informed by Iterative Categorisation and reflexive thematic analysis methods.

Results We identified five key tensions. First, there is a need to provide comprehensive information to meet the information needs of a diverse group of workers with varying knowledge levels, while also designing alerts to be clear, concise, and relevant to the work of individuals. Second, it is important that alerts do not create 'information overload'; however, it is also important that information should be available to those who want it. Third, alert design and dissemination must be perceived to be credible, to avoid 'alert scepticism'; however, credibility is challenging to develop in a broader context of criminalisation, stigmatisation, and sensationalism. Fourth, alerts must be carefully designed to achieve 'intended effects' and avoid unintended effects, while acknowledging that it is impossible to control all potential effects. Finally, while alerts may be intended for an audience of health and community workers, people who use drugs are the end-users and must be kept front of mind in the design process.

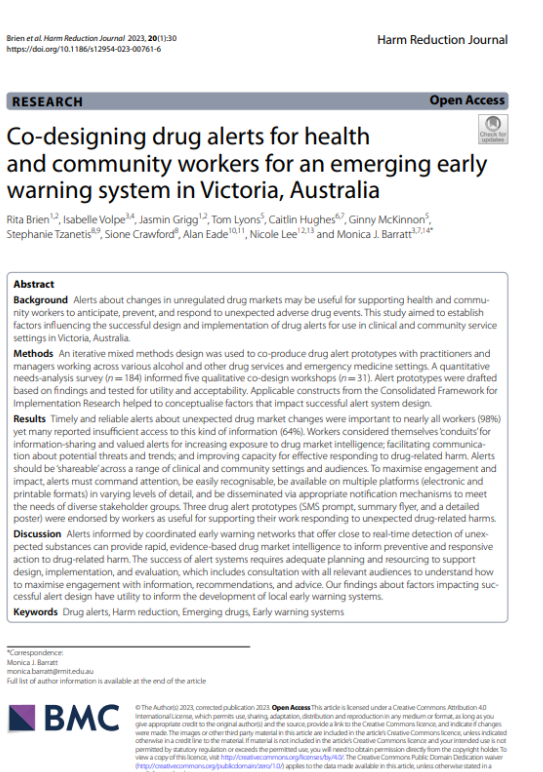
Conclusions The co-design process revealed complexities in designing drug alerts, particularly in the context of stigmatised illicit drug use, workforce diversity, and dissemination strategies. This study has highlighted the value of developing these important risk communication tools with their target audiences to ensure that they are relevant, useful, and impactful. The findings have informed the development of our drug alert prototypes and provide local context to complement existing best-practice risk-communications literature.

Keywords Drug alerts, Early warning system, Workforce, Drug risk communication, Co-design, Drug checking, Credibility, Stigma, Harm reduction, Tensions

*Correspondence:
Monica J. Barratt
monica.barratt@rmit.edu.au
Full list of author information is available at the end of the article

Background

Illicit drug markets are unpredictable with new substances emerging sporadically [1] and established drugs varying in potency and quality (e.g. through



Brien et al. Harm Reduction Journal 2023, 20(1):30
https://doi.org/10.1186/s12954-023-00761-6

Harm Reduction Journal

RESEARCH Open Access

Co-designing drug alerts for health and community workers for an emerging early warning system in Victoria, Australia

Rita Brien[1,2], Isabelle Volpe[3,4], Jasmin Grigg[1,2], Tom Lyons[5], Caitlin Hughes[6,7], Ginny McKinnon[5], Stephanie Tzanetis[8,9], Sione Crawford[8], Alan Eade[10,11], Nicole Lee[12,13] and Monica J. Barratt[3,7,14*]

Abstract

Background Alerts about changes in unregulated drug markets may be useful for supporting health and community workers to anticipate, prevent, and respond to unexpected adverse drug events. This study aimed to establish factors influencing the successful design and implementation of drug alerts for use in clinical and community service settings in Victoria, Australia.

Methods An iterative mixed methods design was used to co-produce drug alert prototypes with practitioners and managers working across various alcohol and other drug services and emergency medicine settings. A quantitative needs-analysis survey ($n = 184$) informed five qualitative co-design workshops ($n = 31$). Alert prototypes were drafted based on findings and tested for utility and acceptability. Applicable constructs from the Consolidated Framework for Implementation Research helped to conceptualise factors that impact successful alert system design.

Results Timely and reliable alerts about unexpected drug market changes were important to nearly all workers (98%) yet many reported insufficient access to this kind of information (64%). Workers considered themselves 'conduits' for information-sharing and valued alerts for increasing exposure to drug market intelligence; facilitating communication about potential threats and trends; and improving capacity for effective responding to drug-related harm. Alerts should be 'shareable' across a range of clinical and community settings and audiences. To maximise engagement and impact, alerts must command attention, be easily recognisable, be available on multiple platforms (electronic and printable formats) in varying levels of detail, and be disseminated via appropriate notification mechanisms to meet the needs of diverse stakeholder groups. Three drug alert prototypes (SMS prompt, summary flyer, and a detailed poster) were endorsed by workers as useful for supporting their work responding to unexpected drug-related harms.

Discussion Alerts informed by coordinated early warning networks that offer close to real-time detection of unexpected substances can provide rapid, evidence-based drug market intelligence to inform preventive and responsive action to drug-related harm. The success of alert systems requires adequate planning and resourcing to support design, implementation, and evaluation, which includes consultation with all relevant audiences to understand how to maximise engagement with information, recommendations, and advice. Our findings about factors impacting successful alert design have utility to inform the development of local early warning systems.

Keywords Drug alerts, Harm reduction, Emerging drugs, Early warning systems

*Correspondence:
Monica J. Barratt
monica.barratt@rmit.edu.au
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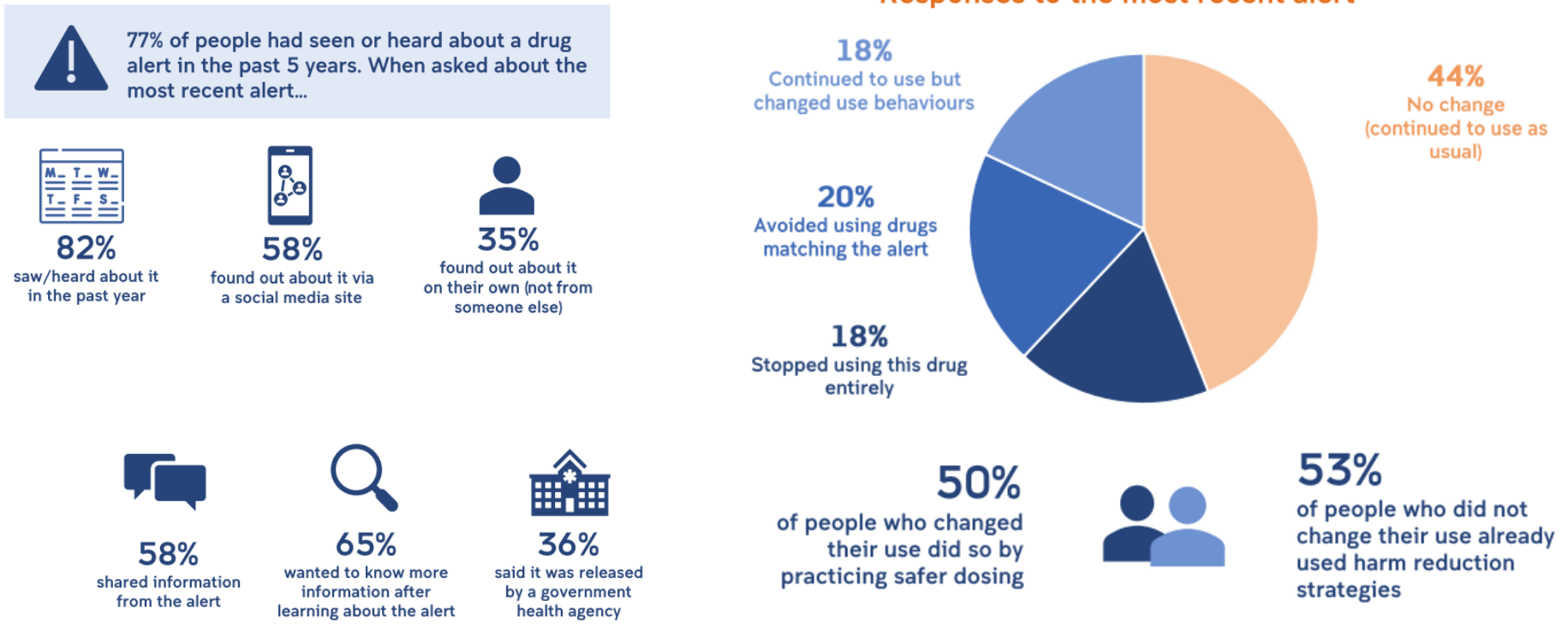
Volpe et al (2023)

- Clear, concise AND relevant for wide range of stakeholders
- Minimise alert fatigue AND provide as much information as possible
- Trusted AND credible harm reduction source
- Intended VS Unintended effects of alerts
- Alerts for workers AND people who use drugs

Drug Alert Awareness & Response

Online survey N=567



Akhurst et al (2024). Informing Drug Alerts in Australia (IDAA) Survey: Awareness of, responses to, and preferences for communication of drug alerts. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney.

RESPONDING TO NITAZENES

The National Centre for Clinical Research on Emerging Drugs

Emerging drug briefing

Increasing reports of nitazene toxicity in Australia

05.04.2024

NCCRED National Centre for Clinical Research on Emerging Drugs

Watch for novel benzodiazepines

Responding to emerging drugs of concern: nitazenes – 25 September 2023

Presented by A/Prof. Darren Roberts, A/Prof. Jennifer Schumann, and Mitch Lamb. Chaired by Prof. Nadine Ezard.

Australian preparedness for nitazenes

27 March 2024

Australian Government

OAT

NCCRED

Under Development

Expansion of Drug Checking Options

The National Signal Register (NSR)

- National database - emerging drugs, drug trends, risk analysis, response

“Anecdotal Moderated Contributions System”

- Moderated PWUD/public/clinician generated reports of unusual/unexpected effects, opportunity for data triangulation, public health response

?Health laboratory capacity

?Foresighting and scenario planning

?Policy reform

CAUTIONS

- Need for local information (avoid extrapolating from international and national signals)
- Divert from treatment access
- Divert from responses to high prevalence substance use
- Learn from the past – stigma, moral panic and media misrepresentation

Eg Rawestone et al 2020 ANZJPH 44(6):468-475

Conclusions

Emerging drugs of concern to watch

- Synthetic opioids (nitazenes)
- Novel benzodiazepines
- Ketamine analogues

Strengthening timely detection and response matter of urgency

Health is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity

World Health Organization 1946